

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RECEIVED
CENTRAL FAX CENTER

SEP 14 2006

In re Application of:
DAVID W. BAINBRIDGE)
) Group Art Unit 1771

Serial No. 10/685,965

)
) Examiner Hai Vo

Filed: October 15, 2003

)
) Confirmation No. 8637For: COMPOSITE MATERIALS
MADE FROM PRETREATED,
ADHESIVE COATED BEADS)
) Attorney Docket 1-28036
)
)Commissioner For Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450DECLARATION OF RICHARD R. RUNKLES

I, Richard R. Runkles, declare and state that:

1. I am the Executive Vice President - Operations of Brock USA, LLC, the assignee of the above-identified patent application.

2. I obtained a Bachelor of Science Degree in Mechanical Engineering in 1970 and a Master of Science Degree in Industrial Engineering (Operations Research) in 1972, both from Texas A & M University. For over 30 years, I have been employed in a variety of engineering and management positions for manufacturers of valves and fittings for industrial, commercial and residential use; aircraft/spacecraft fuel system components and aerospace ground equipment; fluid based skin-contact medical devices to prevent decubitus ulcers; and medical devices for rehabilitation, respiratory and speech augmentation markets.

3. In my current position, I am involved in the manufacture of porous, closed-cell composites, which can be formed by fusing together resilient, closed cell polymer beads at their tangent points. Composites of this type can be used for a variety of applications, including building and construction materials; geocomposite uses, such as sub-surface drainage, drainable inclusion, hydrostatic pressure reduction, earth-force absorption lightweight fill, and permeable lagoon and landfill covering

applications; aerospace and defense garments and helmets; high-performance sports padding, backpacks, helmets, and other body protective products; and automotive uses, including seats, arm rests, head rests and head liners in cars, motorcycles, and other motorized vehicles.

4. I have read and understand the disclosure of the above-identified patent application. I have also read and understand the Kasahara et al. and Frankel et al. references that were cited by the Examiner. Lastly, I have seen and understand the disclosure contained in the DVD reference cited by the Examiner.

5. The invention defined in Claim 1 of the above-identified patent application is a composite material that includes a plurality of beads having electrical excitation zone-treated surfaces. The beads having average diameters between about 1 and about 10 mm. At least 50 percent of the beads are at least 50 percent coated with an adhesive. A cured form of the adhesive has a hardness ranging from about Shore A 25 to about Shore A 95 and is used in a quantity such that it represents between about 20 percent and about 80 percent of the weight of the composite material. Additionally, the beads and the adhesive create a system of void spaces. Independent Claims 32 and 33 respectively define the invention as a construction material and a padding material having the same structure.

6. The Kasahara et al. reference discloses a porous foam plate that is used to stabilize or support the stalk of a plant grown by a hydroponic method. The Kasahara et al. foam plate is formed from a plurality of polystyrene or polyethylene beads that have a particle diameter of about 2 to about 20 mm. The surfaces of such beads are coated with a liquid adhesive such that the beads are bonded to one another. The Kasahara et al. reference fails to disclose the claimed limitations of (1) the plurality of beads having electrical excitation zone-treated surfaces, and (2) the cured form of the adhesive having a hardness ranging from about Shore A 25 to about Shore A 95.

7. In my opinion, the DVD reference cited by the Examiner is non-analogous art to the claimed invention. This is because of two reasons. First, the field of the DVD reference (namely, the in-line surface treatment of bulk plastic articles and

ground pieces of such articles) is quite different from the field of the claimed invention (namely, composite materials comprised of polymeric beads and adhesive). In other words, the field of the DVD reference relates to the surface treatment of previously manufactured articles, while the field of the claimed invention relates to the manufacture of the article itself. Thus, the field of the DVD reference is clearly not within the field of the claimed invention. Second, the problems addressed by the DVD reference (namely, the difficulties associated with adequately bonding of inks, labels, and the like to the surface of an article) are quite different from the problems addressed by the claimed invention (namely, the problems associated with the manufacture of composite materials that are highly breathable, water permeable (especially in all three directions) light in weight, conformable to the human body, and able to withstand repeated blows without mechanically breaking down and/or bottoming out). In view of these facts, I believe that the DVD reference is non-analogous art to the claimed invention.

8. However, even if the DVD reference is analogous art to the claimed invention, the teachings thereof are incompatible with the teachings of the Kasahara et al. reference and, therefore, cannot be properly combined therewith as suggested by the Examiner. As mentioned above, the Kasahara et al. reference discloses a porous foam plate that is used to stabilize or support the stalk of a plant grown by a hydroponic method. The DVD reference relates to the in-line surface treatment of bulk plastic articles, specifically the use of a plasma surface treatment to increase the surface tension, dyne level, and wettability of an article to enhance bonding of coatings, inks, or other adhesives. The Examiner stated that the motivation for combining the teachings of the Kasahara et al. reference and the DVD reference was "to provide an increase in the surface energy of the beads, thereby enhancing adhesive strength between the adhesive and the beads." However, there is no disclosure whatsoever contained in the Kasahara et al. reference that suggests that the adhesive strength between the beads that form the porous foam plate needs to be increased, as suggested by the Examiner. Rather, it is just as likely that an increase in the adhesive strength between the beads that form the Kasahara et al. porous foam plate would

result in a structure that is unsuitable for use in the disclosed hydroponic method. Certainly, the DVD reference provides no motivation whatsoever for applying the disclosed plasma treatment to a porous foam plate that is used to stabilize or support the stalk of a plant grown by a hydroponic method. Thus, the teachings of the DVD reference are incompatible with the teachings of the Kasahara et al. reference and, therefore, cannot be properly combined therewith as suggested by the Examiner.

9. Furthermore, even if the teachings of the Kasahara et al. reference and the DVD reference are combinable, the resultant structure is quite different from the claimed invention. As mentioned above, the Kasahara et al. reference discloses a porous foam plate. The DVD reference relates to a process for the surface treatment of an article. A proper combination of the two references would result in the porous foam plate of the Kasahara et al. reference being subjected to the surface treatment disclosed in the DVD reference. Thus, the combined teachings of the two references does not result in the claimed structure, wherein the plurality of beads having electrical excitation zone-treated surfaces. Rather, the combined teachings of the two references results in a porous foam plate having only an outer surface that is surface treated. Thus, even if the teachings of the Kasahara et al. reference and the DVD reference are combined, the claimed invention is not achieved.

10. I am aware that willful false statements and the like made in connection with my above-identified application are punishable by fine or imprisonment, or both (18 U.S.C. §1001), and may jeopardize the validity of the application or any patent issuing thereon.

11. All statements made herein by me of my own knowledge are true, and all statements made on information and belief are believed by me to be true.

Date:

9/14/06


Richard R. Runkles